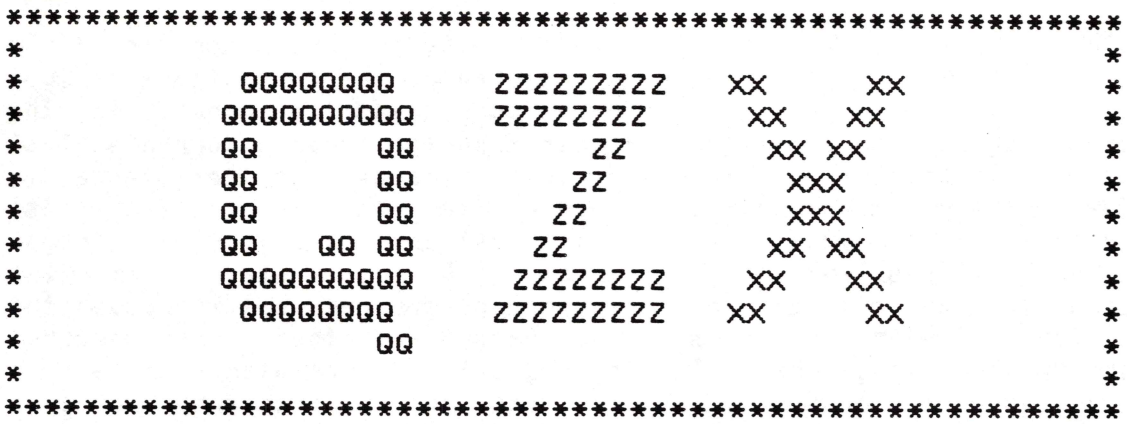
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The Journal Covering Amateur Radio & Sinclair Computers
ZX-80; Micro-Ace; ZX81; T/S 1000, 1500, & 2068; QL

Alex. F. Burr, K5XY, Publisher
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Volume 6 Number 8 ($1.50 / issue) July 1988

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EDITOR'S NOTES
K5XY

Note that there is a slight change in the title of this column. It really does not signify any change in the contents, it is just that publishers are usually silent while editor's tend to run off at the typewriter (or computer in this case). Since Bo is no longer here, I am sort of running double duty.

A+ Computer Response (address in past issues) is selling off their last QL's (reportedly 800). The prices are right and they even are selling parts.

The next several issues are going to be put together in short spurts. This summer is a traveling summer, and I will be away much more often than I will be home. I am back in Las Cruces for less than a week this time. I have just come back from a meeting of physics teachers in Ithaca, New York at which I learned a little about interfacing computers to experiments. When I get a bit of time I will see if I can adapt some of the circuits I was told about to the ZX 81. This meeting did not have the usual workshop on how to get an amateur license, so I concentrated on learning something about computer interfacing.

I did see some demostrations of superconductors. It is always fascinating to see the usual demonstration where a magnet is made to float above a non-magnetic superconductor which is not connected to a battery. The explaination is an interesting combination of Lentz's law, Faraday's law, and currents induced by a moving magnetic field. When a magnet is moved to a position above a superconductor, it induces currents in that superconductor which create a magnetic field of just the right magnitude and direction to exactly oppose the magnetic field which created the current; hence just right to suspend the magnet. In the superconductor these currents last forever because the resistance is reduced to really zero. (At least they last until the liquid nitrogen which is used to cool the superconductor runs out whereupon the temperature of the superconductor rises, a little resistance comes back in, and the currents drop to zero permitting the magnet to fall to the table.)

By the time you receive this issue I will have been in Cameroon for several days. I will be there for a little less than a month. There I will do some trouble shooting for the International Atomic Energy Agency. Actually I will help move an isotope laboratory, I think. Only those who know how a large organization can foul things up and postpone decisions know how much money can be spent with how little preparation. A full explaination would take more than this whole issue and has little of interest about amateur radio or computers. I do not have time to get permission to operate nor the equipment to take with me, so I will have to just keep my eye out for indications of computer useage.

When I get back I will have just a few days to get QZX back on track before leaving for another conference on computers in physics education. Because this conference is in North Carolina, it is just possible that I will be able to see Bo. After that I may get a few days of vacation before my physics classes start in August.

Meanwhile if you have any programs, reviews, or other contributions to send to QZX, now is an excellent time to do it as I will not have much time to write stuff myself.

"A REVIEW OF THE HEATH HK-21 POCKET PACKET TNC"
BY WA6DLI

When I first saw this little unit in the Heath catalog, I thought that they had adopted the small GLB Electronics packet portable, much as they had the AEA Pakratt RS-232 which is the same as the Heathkit. On seeing the HK-21 "in person" I found that it was much smaller! The GLB unit is advertised as 4.6 x 5.9 x 1.0 inches. The Heath HK-21 is only: 2.5 x 4.25 x 1.0 inches!

Seeing it, I had to have it although I have resisted packet for a long time. My interest now is that satellite parameters and other information is increasingly distributed by bulletin boards on packet and less and less in published newsletters etc.

The basic HK-21 can be operated completely portable on about 30ma of current, supplied by 4.8 volts of internal nicads. (I didn't get to try the pack as Heath outlet did not have it in stock.) For the home shack it uses a transformer/cord dc supply of about 11 volts (10 to 13.8 volts dc) Only 40 ma needed to run rig but they recommend a 100 ma unit if you are going to recharge the nicads as well. I bought the unit mentioned in the catalog...which has to have its plug changed to the one furnished with the HK-21.

The HK-21 Pocket Packet is not a kit but fully assembled. The only kit instructions have to do with assembling the manual in its binder cover and wiring up plugs and cables for different hand held rigs for portable operation. It uses a shielded cable with a telephone set keystone transparent plug for connection to a base or home station rig.

My amazement is what the 32K ROM and 32K RAM contains with the circuitry in such a small package. It is just barely larger than the Miracle QL Modapter Plus for the QL. In fact you can consider these two units plugged together as just a lump in your cord between the rig and the computer.

With the QCODE terminal program and the HK-21 set to 1200 baud (default is 9600 baud).I reset it to match the Modapter optimum 1200 while I had it connected to an IBM clone and my hand held that I used for initial tests. With QCODE run, I pressed T to get generic terminal, F3 (command) the I for interface, and set it to ONLINE 1200 BAUD MARK and pressed ENTER. With the TNC turned on, it signed on with garbage. So I turned it off, pressed F3 and then selected X, now when the TNC was turned on, it signed on correctly and printed incoming packets in plain English. You can read more about how to put the QL on packet in ALex's previous article.

Being new to packet I can only tell what the features are as printed in the specifications. The HK-21 is switchable between AX.25 Level 2 Version 2.0 and Version 1.0 protocol when it is necessary to digipeat with vers. 1.0 systems.

I presume that the major commands in the 32K ROM are those

defined in the AX.25 protocol for TNC-2...what special ones might be unique to this unit I don't know...but there are commands to do many many things, including setting delays for relay responses in various equipment that might be connected or digipeated through.

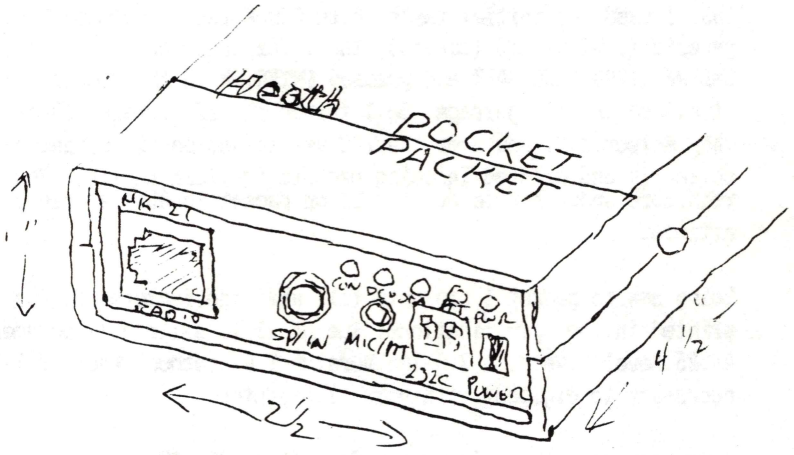
The HK-21 can be set up as a digipeater without a computer or terminal connected...so would be ideal for solar powered rig in a remote location or mountain top. It also has a complete built-in Bulletin Board system program built into the ROM.

The manual is very complete with many diagrams for getting the RS-232 cables correctly wired and various mike input connections for the TNC to both base and hand helds, with many popular brands represented. My strange Azden PCB-300 and old Kenwood TS-700 not listed, but they seem to be similar to listed rigs so connections were not a problem. One problem I did have when connecting to the IBM clone with the TNC was that the RS-232 cable purchased from Radio Shack for Tandy 3000 (their AT clone), was OK for my AT type as far as pin-out, BUT WAS NOT SHIELDED, even though it looked like a shielded cable. I had to take it back and suggest that anything you purchase if you don't make it up yourself, is labelled as 'fully shielded' as was the Interex-3 cable I did get as a replacement.

The little HK-21 costs about $50 less that the HK-232 Pack-kit and requires no assembly. If you don't need the other modes such as CW, RTTY, etc. and don't want any space requirements in your shack or want portable operation, it is the way to go!

****

Well, that's that Alex... 73, Bob



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	Ap	0		My	M
	My	0		Je	M
	Je	0		Jl	7
	Jl	0		Ag	9
	Ag	0		S	M
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	O	0		N	M
	N	0		D	M
	D	0	1988	Ja	M
1984	Ja	0		F	M
	F	0		Mr	9
	Mr	0		Ap	8
	Ap	0		My	7
	My	0		Je	8
	Je	0		Jl	9
	Jl	0		Ag	
	Ag	1		S	
	S	5		O	
	O	0		N	
	N	M		D	
	D	7			
1985	Ja	M			
	F	0			
	Mr	M			
	Ap	8			
	My	M			
	Je	M			
	Jl	M			
	Ag	M			
	S	M			
	O	M			
	N	M			
	D	M			
1986	Ja	M			
	F	M			
	Mr	0			
	Ap	M			
	My	1			
	Je	4			
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QZX FRIENDS

KV3Q -- Bob, also known as S42Q, sent a long letter describing his operation from the Republic of Ciskei (in the south of Africa). He also mentioned that he found little Sinclair activity, on the air or in stores, in South Africa or Holland. He has now returned to Maryland from Florida and hopes to get his new QL on packet soon. He reports that a Citizen 120D printer works great with his QL.

WA4BQE -- Ed was in Las Cruces at the middle of June helping his son move. Ed said that as soon as he saw a ham antenna on the house next door he knew that his son had moved into a good neighborhood. Back in Kentucky, Ed is an officer in a very active Sinclair users' group which publishes one of the best newsletters for the Sinclair in the country. He said that one of the first things he turns to in QZX is the unclassified ads. We could do with a few more interesting things in there.

WD9CZN -- Everett is one of the nation's experts in all aspects of the ZX81 type computers. He is reported to have a complete collection of all the issues of QZX including those published by K2MI.

W6OOA -- Al sent in a contribution for the QZX postage fund. He works cw with a T/S 1000, NU4V cw adaptor, and a Suntronics keyboard. When he is NCS he uses a pretyped preamble to open the net.

W6ISO -- Kit said he renewed to keep the California average up. His latest addition to his computer equipment was a Cannon Bubble Jet printer. It is very fast and quiet. He agres with the conclusions of WA6DLI in his QZX article describing his search for the ultimate printer.

KF5GG -- George renewed and said that he likes the new margin arrangement because it makes it easier to punch 3 ring binder holes without destroying some of the editorial material. He was punching the holes even before the printing format change.

UNCLASSIFIED ADS

WANTED: UNCLASSIFIED ADS for publication in QZX. Cost is 1 cent for each keystroke (characters, blanks, etc.). Payment must be included with order. This is an excellent way to sell your program or unwanted equipment, ask for help, or find a specific program. Send your ad with payment to QZX, 2025 O'Donnell, Las Cruces, NM 88001.

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FOR SALE: Book Inside CP/M Plus by D. E. Cortesi. Paperback 260 pages. Originally $18.45 now $9.00 postpaid in US. Very good for QL users with CP/M. Alex. F. Burr, K5XY, 2025 O'Donnell, Las Cruces, NM 88001.

FOR SALE: Book ZX81 BASIC Book by Robin Norman. Paperback 190 pages. Originally $12.95 now $6.00 postpaid in US. Simple and clear introduction to ZX81 BASIC. Alex. F. Burr, K5XY, 2025 O'Donnell, Las Cruces, NM 88001.

FOR SALE FREE: Seventy (70) Sinclair tapes, some blank, the whole lot for $10 shipping charge. Bo Barry, W4GHV, 8118 Kensington Lane, Harrisberg, NC 28075.

QZX Discount: 15% discount on all orders mentioning QZX. T & C Services (address in ad this issue.)

73, K5XY

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